[CONCLUDED TROM PAGE 1.]

of talk has just a little grain of truth in it. It does not hurt the young trees to be disturbed nearly as much as it does old ones, nor does it hurt them so much in late fall when the roots are frozen; but hurt them it does, and it will put any tree back from one to two seasons.

You can transplant a large, full grown tree without checking its development in one way only, and that is by digging up an enormous ball of frozen earth with the roots. The big and small roots must not be disturbed, and the ball of earth must be period of her life she has "driven," kept closely clinging to them. If this is done with great care gigantic | did a few weeks ago. elms, oaks and maples can be transof them I have planted other stock that has been shipped in the ordinary way, where the roots had been disturbed although there was an apology for a ball of earth wrapped around them.

growth were such as to convince me that there is only one true and successful way to transplant young and old trees. Dig them up in the fall of the year when the ground is solid, of earth unbroken, and planted immediately, they will lose nothing in their next season's growth. C. W. S.

HORTICULTURE IN THE SCHOOLS

Prof. Keffer Makes Some Suggestions Country School Teachers.

Correspondence of The Progressive Farmer. The most notable departure from the old-time ironclad rule of the three R's-"reading, 'riting and 'rithmetic''-is the introduction of primary lessons on fruit growing and gardening in the country schools. The movement had its origin in the extension of nature study and has taken deepest hold in New York State, though Missouri teachers have enthusiastically adopted it. Every country teacher has felt the need of some form of general exercise in which the entire school could par ticipate. The time-honored "spelling down" is one solution of this need. Arithmetic matches, news of the week, stories from home reading -these and many similar exercises have been invented to interest all the scholars; but in everyone there

Let the country teacher try gardening. A box of sand and a few seeds will tell all the children, old and young, new things of the beginmings of plant growth and of the effects of too much or too little water upon the sprouting seed. A peach twig can teach the difference between leaf and fruit buds to the smallest child in school; and it can teach the teacher the basis of good pruning for that fruit. A comparison of the fruiting wood of apple and peach has in it a good lesson, interesting and useful. The dissection of a wellgrown strawberry plant will show fruit buds already formed, ready for mext year's crop. How many pupils, even in the advanced classes, have seen for themselves how the young squash plant breaks from its seed?

is the difficulty that the primary

classes cannot do the work.

These are matters of greater interest and value to the country boy and girl than the spelling of words they will never use, or the location of the capital of Timbuctoo. And if to sand and soil boxes in the school house window there can be added an out-of-door garden when spring time comes, the teacher will find in it a wonderful help in plant studymet botany, but just a simple study of the familiar plants of garden and erchard. Professor Bailey, of Cornell University, has published a most helpful book (Lessons with Plants) for teachers that is full of useful suggestions for the garden teacher. The University of Tennessee offers in the short courses which begin January 3rd special work in hortioultuse which is of the greatest value not only to farmers and fruit growers, but to school teachers, enabling them to work out just what is wanted for their lessons in horticulture and giving besides a good general understanding of the subject.

CHARLES A. KEFFER. Agricultural Experiment Station, Knox Co., Tenn.

The Poultry Yard.

ADVICE TO POULTRY RAISERS.

A Sampson County Farmer Advocates Clean Hen Houses and Clean Drinking Water. Correspondence of The Progressive Farmer.

You were most fortunate in your selection of Aunt Jennie to conduct said that:

Must either hold the reins or drive. Aunt Jennie may never have "held

the reins," but evidently at some or she could not have written as she

I once heard an editor say that if planted without causing them any you want to learn how to run a newsapparent injury. A knowledge of paper, ask some one who never edited this should help us in the matter of one, and he can tell you all about it. transplanting fruit trees. We should Now I don't see why the principle follow exactly the same directions. I should not apply as well to other have time and again transplanted pursuits; therefore, as my experiyoung trees from the nursery in this ence in poultry raising is neither way, and they have absolutely not varied nor extensive, I don't see lost a month's growth. Alongside why I should not give a little information about chickens. First-

FILTHY ROOSTING PLACES.

Filth breeds vermin-lice, fleas and mites; these cause diseases therefore, if you wish to have healthy bad roads when, if the work fowls keep the roosting place clean. The comparative results in the To do this they must roost in a house, and it must be warm and dry.

They should be shut in at dark and kept in till hogs are through eating next morning. This keeps them from over-eating, and the hogs and leave a ball to their roots equal from under-eating. It keeps out in diameter to their longest roots. rats, minks, dogs and 'possums and If removed carefully with this ball prevents roosting on walls, fences, roofs of buildings and under cartshelters, where if they are allowed to roost, the plantation will soon become stocked with lice in a way that makes it impossible to get rid of them.

> Have roost poles so they can be taken out at pleasure and cleaned of lice, for they are there. If you doubt it, take out one pole, turn it bottom side up and look in a crack or crevice, and you will see something that resembles a strand of red fiannel. Jar it slightly and you will think it the liveliest flannel you ever saw and one that can separate into the greatest number of pieces.

> There they are, and they do more harm than the gray louse, because they "come like a thief in the dark," and eat while the chicks are asleep. Then you ask, what are we to do about it? I answer, this: Clean out the house at least once a month and haul or tote the manure to the garden or some other field, and plow under. Try to arrange to plow your garden at same time you clean out; but should you wish to use it under special crops at certain seasons, put it in a box or barrel and cover. Put in small quantity of earth to prevent loss by evaporation, and you will have more manure and better manure.

> and pour kerosene oil over them; or, if you wish to avoid such expense, build a quick fire of straw, chips, &c., not too close to buildings and hold poles over it. Then use the oil on inside walls and sills, if any.

Now a word as to

THE DRINKING WATER.

Perhaps the greatest cause of dis

buckets, &c. Under this place a small trough with a strip nailed over it so that chicks can put their heads their feet. Clean this trough several hand, a cob, or mop made for the purpose. Instruct each member of the family to pour out the water at We guarantee satisfaction. night and the first one that goes to the well of mornings must put in fresh water. Every time during the day when water is drawn and part not needed, pour this into the trough, and you will have fresh water without trouble or cost.

love eggs nor chicken, and he was a preacher—but not a very good one. as might have been expected.

To have eggs in winter as well as two books we make thisin summer, sow near the house the following: Rye, oats, turnip and mustard seeds. Plow under rye and oats and then sow the seeds and drag a brush or harrow lightly.

But don't expect the hens to lay when kept zero; keep them in warm house at night. WM. A. BARBREY.

Sampson Co., N. C.

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Farm Miscellany.

KEEPING UP COUNTRY ROADS.

In his recently published bulletin on the construction and maintenace of country roads, Prof. F. H. King, of the Wisconsin Station, says:

"With our present system of work the Social Chat department of an ing country roads there is no possi agricultural paper. Some poet has bility of either making or maintaining earth roads in first-class order. He that by the plow would thrive It is possible, however, to do much better than is done in many places and one of the most fundamental changes which needs to be made, is to reserve a considerable part of the road tax each year to be worked out along the lines of maintenance on any day during midsummer, fall and early winter when it is seen that something needs to be done and when the soil is in just the right condition to permit the most effective work.

"The general practice of working out all of the road tax in the late spring and early summer makes it necessary to be nearly all of the time either making road or repairing that which is in very bad condition, and the result is that during most of the time the travel is over poor or were more intelligently distributed through the seasons when work may be effectively done, nearly the whole labor would be devoted to correcting the slight defects and thus enabling nearly all travel to be over good or fairly good roads.

"The intelligent use of the grader and roller at the right time after the rains of a wet period and after a dry period will make marvelous changes in the character of earth roads of all classes and particularly in those which are proverbially bad.

"We cannot to strongly emphasize that to drive up one side of the road with a road machine and back on the other, scraping a lot of loose, heterogenous rubbish and earth into the middle of the road, to be tramped out again by the traffic, is neither repairing nor maintaining the road. The material brought upon the road should be well distributed and harrowed until an even, uniform layer has been secured and then the roller should be thoroughly applied when the earth is in just the right condition to pack well. Work of this sort will count and will be appreciated.'

FOR WINTER READING.

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Live Stock.

THE BLOOD OF OUR STOCK.

Correspondence of The Progressive Farmer. There is a common saying that we live by our blood and on it, and if the blood is not pure our systems starve; if too rich we break out in disease and suffer, but if just right at all times we enjoy perfect health. This is so true that physicians try to get at the root of all diseases by purifying and feeding the blood. If this is kept in good condition and in healthy circulation most diseases will be thrown off and the system thereby will be saved many suffer-

A good deal if not all this practical wisdom is applicable to the live stock which we raise on our farms-the cows, pigs, sheep, and poultry. The blood is the all-essential constituent that makes good or bad animals. Let that get out of order and then the door is thrown open for all sorts of physical disorders. There is hardly a disease that cannot be traced back directly or indirectly to the blood. Even the colds which the animals suffer with would never have been contracted had the blood been all right. If the blood had been pure, rich and in good circulation the animals would have been able to throw the cold off. or never to have taken it at all.

Consequently we need to pay a little attention in the winter time to feeding for blood and for all seeing that it is all right. Richness of blood sometimes means impurity, and that is not to be desired any more than impoverished blood. Animals that are shut up in close winter quarters and fed heavily on rich foods will invariably have thick, sluggish blood which may cause fevers and other troubles. Swine cholera owes its origin to feverish, thick and sluggish blood. When turned out in the clover lot they keep their blood cooled off, and they rarely suffer from cholera. We cannot afford to feed our stock with too highly concentrated food in winter unless we can give them daily exercise sufficient to counteract the effect of this and feed them also with roots, vegetables and other green things. If we do trouble will follow sooner or later, and then the mischief is done. It is much easier to upset the system of an animal than to correct it and bring it back to a state of good health. The danger confronting us now at this season is that of heavy feeding with no sufficient variety either of food or exercise. Neither can be neglected and a good stock of roots is an excel lent thing to begin the winter with for daily feeding.

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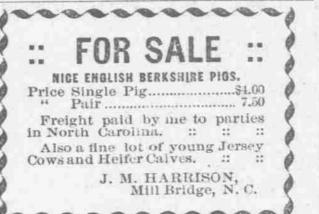


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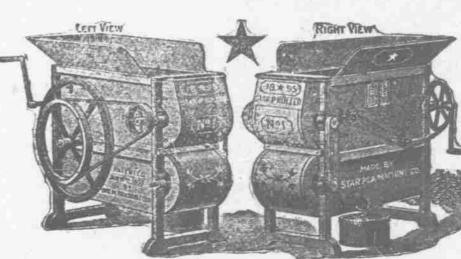
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